1/2 027 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--DIRECT OBSERVATION OF THE INTERFERENCE BETWEEN INTERNAL CONVERSION AND PHOTOEFFECT IN DYSPROSIUM 161 -U-

AUTHOR-(04)-LUKASHEVICH, I.I., GOROBCHENKO, V.D., SKLYAREVSKIY, V.V., FILIPPOV, N.I.

COUNTRY OF INFO--USSR

SOURCE--PHYS. LETT. A 1970, 31(3), 112-13

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--RESONANCE ABSORPTION, GAMMA IRRADIATION, ENERGY SPECTRUM, EXCITATION CROSS SECTION, PHOTOELECTRON, MOSSBAUER SPECTRUM, DYSPORSIUM ISOTOPE, INTERFERENCE MEASUREMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1982/0660 STEP NO--UR/0000/70/031/003/0112/0113

CIRC ACCESSION NO--AP0052120

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0052120

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ENERGY DEPENDENCE OF THE CROSS SECTION FOR CREATION OF CONVERSION E DURING THE RESONANT ABSORPTION OF GAMMA RAYS BY PRIME161 DY NUCLEI IN METALLIC DY HAS BEEN INVESTIGATED. THE ASYMMETRY OF THE MOESSBAUER LINE SHAPE USED. IN EXPT. IS CONNECTED WITH THE PRESENCE OF AN INTERFERENCE BETWEEN PROCESSES OF PHOTOEFFECT AND INTERNAL CONVERSION. FACILITY: ACAD. SCI., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.762.1.01:669. 18.95

PORTNOY, K. I., GOROBETS, B. R., ROMANOVICH, I. V., and BABICH, B. N.,
All-Union Scientific Research Institute of Aviation Materials

"Relation of Precipitation-Hardened Nickel Heat Resistance to Structure Parameters"

Kiev, Poroshkovaya Metallurgiya, No 1, Jan 74, pp 96-100

Abstract: In conjunction with the fact that precipitation-hardened nickel alloys VDU-1 and VDU-2 have a different level of heat resistance despite identical conditions of heat treating, a study was conducted on the structure of these alloys subjected to the same treatment, which differed in dispersity of the hardening phase in the amount of 2.5 vol %. Experiments confirmed a linear relationship of long-time strength to inverse magnitude of mean interparticle distance. It was also determined that there is a linear relationship between long-time strength to relative volume percentage of "coarse" dispersed particles. These results confirmed the hypothesis that the rise in strength increases with temperature due to the unchanged shear modulus with increased temperature and that the number of active slip systems is decreased with increased temperature, which in turn is the result

USSR

PORTNOY, K. I., et al., Poroshkovaya Metallurgiya, No 1, Jan 74, pp 96-100

of the role of be dispersed hardening particles which hinder the movement of mobile dislocations. Four figures, one table, nine bibliographic references.

2/2

1/2 021 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--NORMS OF ANTIEPIDEMIC SERVICES OF A RURAL POPULATION -U-

AUTHOR-(05)-BIRKOVSKIY, YU.YE., PONOMAREVA, G.YE., PAVLOV, A.V., GOROBETS, F.M., DLBRUSHTAN, YE.V.
COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 5, PP 150-152

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--EPIDEMIOLOGY, PUBLIC HEALTH, MEDICAL PERSONNEL, GEOGRAPHIC LOCATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0425 STEP NO--UR/0475/70/000/005/0150/0152

CIRC ACCESSION NO--AP0126178
UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0126178
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ANALYSIS OF EPIDEMIOLOGICAL SERVICES IN RURAL DISTRICTS MADE IT POSSIBLE TO SUGGEST THE FOLLOWING NORMS FOR ADEQUATE SERVICE OF THE RURAL POPULATION: ONE EPIDEMIOLOGIST PER 24.2 THOUSAND INHABITANTS AND ONE ACCISTANT EPIDEMIOLOGIST PER 12.6 THOUSAND INHABITANTS. FACILITY: KIYEVSKIY INSTITUT EPIDEMIOLOGII, MIKROBIOLOGII I PARAZITOLOGII.

UNCLASSIFIED

472 014 UNCLASSIFIED PROCESSING DATE-- 090CT70

TITLE--A CATHODE WITH SLITS FOR THE ELECTROCHEMICAL POLISHING OF GEARS -U-

AUTHOR-(04)-GUROBETS, G.K., KUZAMIN, N.F., KORNEV, A.D., COURTSOV, N.I.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, STANKI I INSTRUMENT, NO 2, 1970, PP 27-28

DATE PUBLISHED-------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--METAL POLISHING, ELECTROCHEMICAL MACHINING, GEAR CUTTING MACHINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/1777

STEP NO--UR/0121/70/000/002/0027/0028

CIRC ACCESSION NO--AP0114276

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0114276

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BENEFITS ACCRUING FROM THE ELECTROCHEMICAL POLISHING OF GEARS ARE NULLIFIED WHEN A CONVENTIONAL FLAT OR ANNULAR CATHODE IS USED, DUE TO APPROXIMATE DOUBLING OF THE TOOTH PROFILE ERROR AS A RESULT OF THE FORMATION OF AN EXCESSIVELY LARGE FLANK. A CATHODE WITH SLITS IS PROPOSED, WHICH PROVIDES FOR INVARIABILITY OF THE TOOTH PROFILE IN POLISHING. A DESCRIPTION OF THE CATHODE IS PRESENTED, AND ITS OPERATION IS DESCRIBED. WHEN GEARS WERE ELECTROCHEMICALLY POLISHED WITH THE USE OF SUCH A CATHODE, WITH A CURRENT DENSITY OF 160 A-DM PRIME2 AND A TEMPERATURE OF 55DEGREES C, A PROFILE WAS OBTAINED, THE ERROR OF WHICH CORRESPONDS ESSENTIALLY TO THE INITIAL GRINDING ERROR OF THE TOOTH PROFILE.

UNCLASSIFIED

USSR
GOROBETS, N. N.
HOROBETS', M. M., SERHIYENKO, Yu. I.

UDC: 621.396.677

"Certain Properties of Self-Phasing Antenna Arrays"

Visnyk Kharkiv. un-tu (Khar'kov University Herald), 1972, No 80, Radio Physics and Electronics, vyp. 1, pp 15-18 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8B56)

Translation: Radiation patterns are calculated for a lattice comprised of weakly directional radiators connected in pairs by feeder lines of identical length in such a way that there is a difference of $\lambda/2$ in the length of the lines connecting adjacent pairs. It is shown that such lattice arrays scatter electromagnetic energy in directions which differ from the direction of arrival for any angles of incidence of the wave on the array. This property can be utilized for constructing echoless chambers, and also for reducing the effective reflecting surface of various devices. Three illustrations, bibliography of one title. N. S.

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USSR

UDC 621.396.677.73

BUTAKOVA, S. V., GOROBETS, N. N., LYAKHOVSKIY, A. F.

"Range Characteristics of a Horn Antenna with Circular Polarization Based on a Three-Decibel Slot Waveguide Bridge"

Antenno-fidern. i izmerit. ustroystva svedkhvysok. chastot -- V sb. (Superhigh Frequency Antenna Feeder and Measuring Devices -- Collection of Works), Khar'kov, Khar'kov University, 1971, pp 22-29 (from RZh-Radiotekhnika, No 10, Oct 71, Abstract No 10B55)

Translation: The results of calculating the parameters of a three-decibel slot waveguide bridge with a common narrow wall in a broad frequency range on the M-20 computer are presented. A nomogram is given for determining the geometric dimensions of the coupling range of the slot waveguide bridge insuring equal division of the power in the output arms at the given wave length with respect to one of the dimensions (length or width) of the coupling range. The frequency dependencies of the ellipticity factor and the angle of orientation of the polarization ellipse at the main radiation peak of the horn antenna with circular polarization executed on the basis of a three decibel slot waveguide bridge are presented. It is demonstrated that the ellipticity factor of the antenna

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BUTAKOVA, S. V., et al., Antenno-fidern. i izmerit. ustroystva sverdkhvysok. chastot, Khar'kov, Khar'kov University, 1971, pp 22-29

remains high in a broad frequency range. The antenna efficiency also remains high (≈ 98%) in the wavelength range of 25-40 cm. There are 7 illustrations and a 6-entry bibliography.

2/2

USSR UDC 621.396.677.71

GOROBETS, N. N., LYASHCHENKO, V. A., SIROTNIKOV, A. I.

"Experimental Study of the Field Distribution in Slot Waveguide Radiators"

Antenno-fidern. i izmerit. ustroystva sverkhvysok. chastot -- V sb. (Superhigh Frequency Antenna Feeder and Measuring Devices -- Collection of Works), Khar'kov, Khar'kov University, 1971, pp 14-22 (from RZh-Radiotekhnika, No 10, Oct 71, Abstract No 10B29)

Translation: The distribution of the tangential component of the electric vector on the surface of a slot is determined from the condition of continuity of the tangential component of the magnetic vector on transition through the slot. A method of direct measurement of the electric field distribution in slot radiators is described. The field is measured by means of a disturbing body which moves along the slot. Here, the amplitude of the reflected wave varies proportionally to the field distribution in the slot. The block diagram of the measuring device and the results of an experimental study of the field distribution along longitudinal slots in the wide wall of a rectangular waveguide are presented. It is demonstrated that the distribution along the nonresonance slots differs from sinusoidal by no more than 10%. The field distribution along the dumbbell-shaped slots has a table shape. There are 6 illustrations and a 4-entry bibliography.
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USSR

UDC 621.317.7.029.64

GOROBETS, N. N., SERGIENKO, YU. I.

"Centimeter Range Polarimeter with Pointer"

Radiotekhnika. Resp. mezhved. nauchno-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 14, pp 135-138 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A306)

Translation: A polarimeter is described which operates by the method of two circular-polarized antennas. This polarimeter permits measurement of the ellipticity factor, the angle of orientation of the polarization ellipse and the direction of rotation of the field vectors. The ellipticity factor is measured by means of a logometer. An electronic commutator is used to improve the measurement accuracy. The commutator permits one detector and amplifying channel to be used for both circular-polarized components of the field. There are 3 illustrations and a 3-entry bibliography.

USSR

UDC 577.4

GOROBETS, V. G.

"Synthesis of Asynchronous Finite Automata on the Basis of Uniform Media"

V sb. Vopr. sinteza konechn. avtomatov (Problems of Synthesizing Finite Automata -- collection of works), Riga, Zinatne Press, 1972, pp 55-63 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V410)

No abstract

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USSR

UDC:535.372:549.755.35

GOROBETS, V. S. and SIDORENKO, G. A.

"Luminescent Secondary Minerals of Uranium at Low Temperatures"

Moscow, Atomnaya Energiya, Vol 36, No 1, Jan 74, pp 6-13

Abstract: Mineralogists have long used the luminescent properties of uranyl minerals in ultraviolet light; however, the photoluminescent spectra of these minerals have been defined for only a few examples, which have bright luminescence at room temperature. Unfortunately, most secondary uranium minerals exhibit bright luminescence only at low temperatures. The purpose of this article is to determine the luminescence spectra of as many uranyl minerals as possible at 77 and 298 K and to interpret the spectra physically; to clarify certain peculiarities of the composition of the minerals on the basis of the data produced; and to develop a luminescent method for reliable, rapid diagnosis of uranyl minerals in charges as small as possible. Minerals studied include phosphates and arsenates, silicates, carbonates and sulfates, vanadates, molybdates and hydroxides.

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1/2 022 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--SIMPLIFIED METHOD FOR ISOLATING CLOSTRIDIUM PERFRINGENS -U-

AUTHOR-(03)-MININA, R.S., GORODETSKAYA, I.A., NEKRASOVA, N.M.

COUNTRY OF INFO--USSR

SOURCE--VETERINARIYA, 1970, NR 5, P 107

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CLOSTRIDIUM PERFRINGENS, CULTURE MEDIUM, CULTURE METHOD, DYSENTERY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605049/D12 STEP NO--UR/0346/70/000/005/0107/0107

CIRC ACCESSION NO--AP0143380

2/2 022 UNCLASSIFIED PROCESSING DATE--11DEC70
CIRC ACCESSION NO--AP0143380
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN IMPROVED METHOD OF ISOLATING CL. PERFRINGENS TYPES B, C, AND D, AGENTS OF INFECTIOUS ENTEROTOXEMIA AND ANAEROBIC DYSENTERY, CONSISTS OF SOWING PATHOLOGICAL MATERIAL FROM DEAD SHEEP ON KITT TAROTSTSI MEDIUM (A MODIFIED MEAT PEPTONE BROTH), HEATED AND SATURATED WITH GLUCOSE. AFTER HEATING AT 65 C FOR 10 MIN AND INCUBATION FOR 18-24 HRS, PURE CULTURES WERE USED FOR BIOASSAY ON GUINEA PIGS IN THE NEUTRALIZATION TEST WITH ANTITOXIC SERA. PURE CULTURES WERE ISOLATED IN 90-95PERCENT OF CASES. A TOTAL OF 970 TESTS CONDUCTED BETWEEN 1961 AND 1968 RESULTED IN 143 POSITIVES FOR ENTEROTOXEMIA, DYSENTERY AND BRAXY. FACILITY: KIRGIZSKAYA RESPUBLIKANSKAYA VETERINARNAYA LABORATORIYA, KIRGIZ REPUBLIC VETERIANRY LABORATORY.

1/2 027 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--SOLUBILITY OF GASES IN ICE -U-

AUTHOR-(02)-NAMIOT, A.YU., GORODETSKAYA, L.YE.

6

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(3), 604-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SOLUBILITY, HYDROGEN, ARGON, NEON, HELIUM, ICE, CRYSTAL LATTICE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/1574 STEP NO--UR/0020/70/190/003/0604/0606

CIRC ACCESSION NO--AT0100192

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AT0100192

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOLYS. OF H SUB2, AR AND NE IN ICE AT 400, 600, AND 800 ATM WERE CALCD. BY MEASURING THE FREEZING POINTS OF PURE AND GAS SATD. WATER IN A NAMIOT BUKHGALTER DEVICE (1965). MEAN COEFFS. OF ABSORPTION, EXPRESSED IN TERMS OF CM PRIME3 TIMES 10 PRIME NEGATIVE3-G ATM (VOLS. REFER TO 0DEGREES AND 760 TORR) ARE 11,8, AND 7 FOR HE, H SUB2 AND NE, RESP.; I.E., THE SOLYS. OF THESE GASES IN ICE ARE OF THE SAME ORDER OF MAGNITUDE AS IN WATER. HOLES IN THE LATTICE OF ICE ARE LARGE ENOUGH TO ACCOMMODATE ATOMS OR MOLS. OF THESE GASES. GAS IN ICE SOLNS. FOLLOW THE HENRY RULE. SOLY. IN ICE OF GASES HAVING LARGER ATOMS OR MOLS. (O SUB2, N SUB2, AR, ETC.) CANNOT BE MEASURED BY THIS METHOD BECAUSE THEY FORM CRYSTAL HYDRATES WITH WATER.

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GORODETSKAYA, N.N.

Chemical Sciences

N.N. GORODETSKAYA CHEMIST

SO: JPRS 57345

26 JUNE 1973

NEW NONCOMBUSTIBLE POLYPROPYLENE DEVELOPED AT MOSCOW REFINERY

[Article by T. Dzhafarova: "Soviet Polypropylene"; Moscow, Moskovskaya Pravda, Russian, 20 May 1973, p 4]

A new form of it has been created in a plant laboratory.

Polypropylene production was first mastered in our country a few years ago. Efforts to improve its properties have not halted since then.

Scientists of the Moscow Oil Refinery have developed and checked new types of polypropylene -- cold-resistant, heat-resistant, of enhanced hardness and elasticity, noncombustible, corrosion-resistant, glass-oriented (steklonapravlennyy) -- under industrial conditions.

Previously, raw material which could have been used to make polypropylene was flared off. Since the department which produces this material -- large amounts of waste material are used here -- went into operation at the plant, the dark-red flare has been transformed into an orange-gold one. After separating and scrubbing the cracking gases and pyrolysis, a monomer -- propylene -- is isolated. They polymerize this under pressure and in the presence of a catalyst.

The finished polypropylene product is a white crumbly powder. It resembles pure, new-fallen snow. To obtain polymer granules suitable for processing, the powder is mixed with special additives and dyes.

In the polypropylene processing department they make granules of various colors into manufactures. Here they are transformed into pipe for water supply and for pumping liquid fuels, marine cable, cord, reinforced film which is used successfully for glazing greenhouses and hotbeds, and fiber which is used in making synthetic carpets.

I asked the plant director, candidate of technical sciences Demid Vasil'yevich Ivanyukov, to tell how another new form of polypropylene had been created.

"Last year the leaders of a Rostov special design bureau asked us to develop a noncombustible polypropylene for the electrical-engineering industry. There was no such polymeric material in the laboratory. As is well known, ordinary polypropylene is a combustible substance, and it was up to us to add a new quality while retaining the whole complex of its valuable properties. We worked on this problem for a long time. Finally, after a thousand trials and analyses, a noncombustible material was obtained."

Demid Vasil'yevich took a thin sheet of the new polypropylene, which at first glance was not distinguishable from the others in any way, and held it to a burning candle. In a fraction of a second the edge of the sheet quivered slightly but it did not burst into flame and did not burn.

"Today there is already talk about wide industrial use of noncombustible polypropylene," D. V. Ivanyukov continued. "The introduction of a warning device made of self-damping polymeric material at Rostov enterprises of Minneftyazhstroy [Ministry of Installation and Special Construction Work] led to 4 million rubles in savings.

"The new polymer undoubtedly has a great future. Right now our plant laboratory is working on such pressing problems as processes for synthesizing polypropylene, research of the finished polymer's physical and mechanical characteristics, and control of the properties of materials already obtained. Much attention is being paid to their longevity.

"Complete equipment is required for such research. Our factory laboratory is equipped with it. For example, it taken our scientific workers only a few minutes to determine a polymer's structure or to find its weight-average and number-average molecular weight. This takes a much longer time at ordinary laboratories.

"Excellent instrument work depends on people. Highly qualified workers labor in the laboratory. Valentina Fedorovna Petrova has gone from the laboratory to leader of the scientific collective. Candidates of chemical sciences V. V. Amerik and N. N. Gerasimova came to us from a scientific research institute, and F. I. Yakobson and M. L. Fridman became scientists at the plant."

11,409
CSO: 1821-S

USSR UDC 539.3

GORODETSKIY, A. S.

"Calculation of Three-Dimensional Thin-Walled Structures by the Finite Element Method"

V sb. EVM v issled. i proyektirovanii ob"yektov str-va (Computers in the Study and Design of Structural Objects -- Collection of Works), Kiev, "Budivel'nik", 1972, pp 75-86 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V137)

Translation: A general method is described for calculating structures by the finite element method. A matrix of rigidity characteristics is derived for a finite element of a shell of double curvature. It is shown that it is possible to obtain the rigidity characteristics of a finite element of a membering and a finite element of a flexible plate from this matrix. Author's abstract.

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USSR UDC 541.1.13

GORODETSKIY, A. Ye., TESNER, P. A., LUK'YANOVICH, V. M., POLYAKOVA, M. M., ZAKHAROV, A. P., and YAGMIN, A. G., Institute of Physical Chemistry, Acad. Sc. USSR, All Union Scientific Research Institute of Natural Gasses, Moscow

"The Structure of Thin Pyrocarbon Films Obtained From Methane"

Moscow, Doklady Akademii Nauk SSSR, Vol 203, No 6, Apr 72, pp 1336-1338

Abstract: Structure of pyrocarbon films obtained from methane under known growth kinetics has been studied. Platinum and polished quartz were used as bases, yielding two types of films. Films on quartz consist of relatively homogeneous finely crystalline pyrocarbon with low degree of tridimensional ordering. The films on platinum are heterogeneous with two distinct structures: finely crystalline and crystalline. The first resembles the films on the graphite - the second is a well ordered tridimensional graphite. The structure of the film depends on the pressure of methane: lowering the pressure favors formation of graphite crystals. The observed difference in the type of film, depending on the base, is due to the competition between the seeding and propagation processes: on quartz they are about equal, on platinum the seeding rate changes from sample to sample and is a function of pressure. It is proposed that pyrocarbon film formation is due to a direct decomposition of methane molecules on the surface of the base.

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USSR UDC 621.311.072(6+8).016.24

GORODETSKIY, A. YE.

"Systems for Group Regulation of Frequency and Active Power of Hydroelectric Power Plants and Problems of Studying their Dynamics"

V. sb. Kontorol' upr. i peredacha inform (Information Monitoring, Control and Transmission -- collection of works), Leningrad, Nuaka Press, 1970, pp 16-22 (from RZh- Elektrotekhnika i Energetika, No 4, Apr 71, Abstract No 4 Ye229)

Translation: Various systems are described for group regulation of the frequency and active power of hydroelectric power plants. A brief analysis of their structural schematics and a comparison of various group regulation systems are presented. The conclusion is drawn that it is expedient to regulate the frequency and the active power of hydroelectric power plants by means of systems with a group regulator. There are 3 illustrations and a 16-entry bibliography.

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1/2 031 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--CONTROLLED GROWTH OF GRAPHITE FROM A CARBON SOLUTION IN MOLTEN IRON -U-

AUTHOR-(03)-GORODETSKIY, A.YE., LUKYANOVICH, V.M., FEDOSEYEV, D.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(1), 3-5

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--GRAPHITE, FERROUS LIQUID METAL, CRYSTALLIZATION, IRON CARBONAL, CARBON, VACUUM TECHNIQUE/(U)VUPI VACUUM FACILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0150 STEP NO--UR/0363/70/006/001/0003/0005

CIRC ACCESSION NO--AP0054949

UNCLASSIFIED

2/2 031 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054949

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FEASIBILITY IS SHOWN OF CONTROLLED GROWTH OF GRAPHITE FROM C SOLN. IN MOLTEN FE. THE APP. FOR THE GROWING OF GRAPHITE FROM THE SOLN. WAS SELECTED ON THE BASIS OF THE VACUUM FACILITY VUP-1. ARMCO AND CARBONYL FE WERE USED AS THE MATERIAL OF THE MOLTEN ZONE. PRIOR TO THE EXPTS. THEY WERE ETCHED AND RINSED IN STEAM AND IN WATER, AS WELL AS IN ME SUB2 CO AND ALC., WHEREUPON THEY WERE ANNEALED, FE AT 1000-1100DEGREES, AND GRAPHITE AT 1500DEGREES. THE GRAPHITE OBTAINED IN THIS WAY IS COMPARABLE TO THE NATURAL GRAPHITE OF THE TAIGIN DEPOSITS RELATIVE TO ITS CRYST. PERFECTION. THIS HIGH DEGREE OF CRYST. PERFECTION OF THE GRAPHITE OBTAINED BY THIS METHOD IS PROBABLY ASSOCD. WITH THE LOW VALUE OF THE INTERPHASE FREE ENERGY AT THE FE,GRAPHITE INTERFACE, AND ALSO BY THE HIGH MOBILITY OF THE C ATOMS AT THE INTERPHASE BOUNDARY.

UNCLASSIFIED

USSR

UDC 661.666.2

GORODETSKIY, A. YE., LUK"YANOVICH, V. M., and FEDOSEYEV, D. V.

"Controlled Growth of Graphite From a Carbon Solution in Liquid Iron"

Moscow, Neorganicheskiye Materialy, Vol 6, No 1, Jan 70, pp 3-5

Abstract: An investigation was made of the possibility of controlled growth of graphite on a graphite substrate from eutectic or hypereutectic solutions of carbon in liquid iron. The phase diagram of the iron-carbon system has been studied previously. When the eutectic melt hardens, a stable iron-graphite eutectic (slow cooling) or a metastable iron-semenite eutectic (fast cooling) can be formed. For the controlled growth of graphite from the solution, the method of melting with a temperature gradient used earlier to obtain semiconductor crystals, was used. In contrast to the ordinary method, in which the length of the fusion zone varies from several microns to tens of microns, in the investigated experiments the length of the fusion zone was increased to 2-4 mm. Increasing the length of the zone results in the process of convective mixing of the melt being superposed on the process of diffusion of the carbon atoms from the "hot" source to the "cold" substrate.

USSR

GORODETSKIY, A. YE., et al, Neorganicheskiye Materialy, Vol 6, No 1, Jan 70, pp 3-5

In addition to growting large graphite formations, the authors also tried to obtain thin oriented layers of graphite. Electron-diffraction photographs of the pyrographite reflection and graphite films ~10 microns thick grown from solution are presented. A picture of a column of graphite grown on a substrate of spectrally pure graphite heated to 1,250°C is also presented. It is pointed out that the graphite obtained is comparable, with regard to crystal perfection, to natural graphite from the Tayga deposit.

2/2

USSR

GORODETSKIY, B. V. and FOMENKO, V. K.

"Method of Estimation of the Reliability of ASK Testing (Review)"

Vopr. Tekhn. Diagnostiki [Problems of Technical Diagnosis -- Collection of Works], No 10, Taganrog, 1973, pp 94-115 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V630).

Translation: Published works on the reliability of testing are summarized and systematized. In Part I of the review, the influence of such factors as error in measurement and comparison, reduction of the field of tolerance, testing time, reliability of the testing equipment, etc. on the probability of undetected and false failures during testing of one parameter is studied. Part II studies problems of reliability of testing of multiparameter objects.
Authors' view

1/1

USSR UDC: 681.3:519.2

MALYSHEV, N. G., GORODETSKIY, B. V., TOTAYEV, L. T., Taganrog Radio Engineering Institute

"An Automatic Monitoring System"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 8, Mar 73, Author's Certificate No 367474, Division G, filed 4 May 70, published 23 Jan 73, p 128

Translation: This Author's Certificate introduces an automatic monitoring system containing a statistical analyzer, an associative memory, a controllable generator of random functions with arbitrary distribution law, a unit for storage of settings, a comparison unit, a control unit, a unit for storage of coefficients, a normal random number generator, a computer unit, and a display unit. As a distinguishing feature of the patent, the accuracy and reliability of the system are improved by connecting the output of the statistical analyzer to the first input of the associative memory, while the output of the controllable generator of random functions with arbitrary distribution law is connected to the second input of the associative memory. The input of this random function generator is con-

USSR

MALYSHEV, N. G. et al., USSR Author's Certificate No 367474

nected to the first output of the control unit, and the second output of the control unit is connected to the first input of the unit for storage of coefficients. The fourth output of the control unit is connected to the input of the normal random number generator, and the control unit input is connected to the output of the associative memory. The output of the associative memory is connected to the second input of the unit for storage of settings, and the output of this unit is connected to the first input of the comparison unit. The second input of the comparison unit is connected to the output of the computer unit. Connected to the first input of the computer unit is the output of the normal random number generator, while the output of the unit for storage of coefficients is connected to the second input of the computer unit. The output of the comparison unit is connected to the input of the display unit.

2/2

USSR UDC 51:155.001.57:612.82

GORODETSKIY, B. V., UMANSKIY, V. V.

"The Problem of Optimization of the Volume of Tested Parameters"

Regiyonal'n. Nauch.-tekhn. Seminar po Statist. Analizu., Modelir. i Avtomatiz. Kontrolya Ob'yektov s Konstruktivno-slozhn. Strukturoy. Vyp. 2 [Regional Scientific and Technical Seminar on Statistical Analysis, Modeling and Automation of Testing of Objects with Structurally Complex Structure, No 2 -- Collection of Works], Taganrog, 1970, pp 61-68, Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V849).

NO ABSTRACT.

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USSR UDC: 621.396.6.022(088.8)

KOKHANOV, B. T., GORODETSKIY, B. V., SHIBANOV, G. P., TOTAYEV, L. T.,
Taganrog Radio Engineering Institute

"A Device for Automatically Checking Electronic Radio Equipment"

USSR Author's Certificate No 264793, filed 15 Sep 68, published 29 Jun 70
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V462 P)

Translation: This Author's Certificate introduces a device for automatically checking electronic radio equipment. The unit contains a normalizing commutator, measurement device, analyzer, signal converters, time-setting units with time selectors, and modules for automatic monitoring and display. To improve efficiency in checking, the device also contains a prognosis module whose inputs are connected through the signal converters and time selectors to the prognosis outputs of the normalizing commutator, measurement device and analyzer, while the output of the prognosis module is connected to the display module through an OR circuit. The other input of the OR circuit is connected to the output of the automatic monitoring module.

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USSR UDC: 621.396.6.002(088.8)

GORODETSKIY, B. V., KOKHANOV, B. T., SHIBANOV, G. P., Taganrog Radio Engineering Institute

"A Device for Automatically Checking Radio Electronic Equipment"

USSR Author's Certificate No 264792, filed 16 Sep 68, published 2 Jul 70 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V359 P)

Translation: A device is proposed which contains a normalizing commutator, a program unit, an analyzer, modules for measuring, self-monitoring and display, and completion time pickups. The device contains an additional computer module whose inputs are connected to the outputs of the pickups for the time of completion of the object being monitored, to the outputs of the modules of the monitoring device, and to the output of the analyzer, while the output of the computer module is connected to the input of the display module.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201010009-6"

1/2 012 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--LIQUID AND LIQUID EQUILIBRIUM IN WATER, CYCLOHEXANE AND C SUB1 THROUGH C SUB5 MONOCARBOXYLIC ACID SYSTEMS -U-

AUTHOR-(04)-GORODETSKIY, I.YA., LEVITANAITE, R., LEGOCHKINA, L.A., ZARECHNOVA, A.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(1), 115-20

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--FLUID EQUILIBRIUM, CYCLOHEXANE, WATER, CARBOXYLIC ACID, FORMIC ACID, TITRATION, BUTYRIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/1359 STEP NO--UR/0080/70/043/001/0115/0120

CIFC ACCESSION NO--AP0100022

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100022

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DISTRIBUTION OF FORMIC (I), ACETIC (II), PROPIONIC (III), BUTYRIC, AND VALERIC ACIDS BETWEEN WATE/ AND CYCLOHEXANE (IV) WAS DETD. AT 65DEGREES BY USING ISOTHERMAL TITRN. THE RESULTS ARE TABULATED AND PLOTTED AS TERNARY EQUIL. DIAGRAMS. INCREASING THE NO. OF C ATOMS IN THE ACID REDUCED ITS SOLY. IN THE AQ. LAYER AND INCREASES ITS SOLY IN THE IV LAYER. WATER CAN BE USED TO EXT. I, II, AND III FROM THE PRODUCTS OF THE OXIDN. OF IV.

UNCLASSIFIED

USSR

UDC 615.214.3

KHOLODOV, L. Ye., TASHUNSKIY, AL'TSHULER, R. A., MASHKOVSKIY, M. D., ROSHCHINA, L. F., SHERSHNEVA, S. I., LEYBEL'MAN, F. Ya., VOLZHINA, O. N., GORODETSKIY, L. Sh., and PETROVA, N. A., All-Union Chemical and Pharmaceutical Institute imeni S. Ordzhonikidze, Moscow

"Sydnocarb, a New Central Nervous System Stimulant"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, No 1, 1973, pp 50-52

Abstract: The recently developed heterocyclic compound sydnocarb -- N-phenylcarbamoyl-3-(β -phenylisopropyl) sydnonomine, $C_{18}H_{18}N_4O_2$ -- produced marked motor excitation in mice, rats, dogs, and cats, increased the frequency and decreased the amplitude of electrical potentials, shortened the latent period of conditioned avoidance reflexes, and reduced the duration of the somnifacient action of hexobarbital. It did not depress monamine oxidase activity, affect arterial pressure, or cause morphological changes in the viscera or peripheral blood. Administered to persons with various neurological and mental diseases (average dose 10 to 25 mg) characterized by asthenic, adynamic, and apathic disorders, sydnocarb had a pronounced stimulatory effect (exceeding that of amphetamine) without inducing euphoria or motor excitement, tachycardia, elevated blood pressure, or other peripheral changes. No signs of physical or

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USSR

KHOLODOV, L. Ye., Khimiko-Farmatsevticheskiy Zhurnal, No 1, 1973, pp 50-52

mental dependence were observed even in patients that received the drug more than 2 years. Sydnocarb has been authorized by the USSR Ministry of Health for use as a psychotropic agent.

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USSR

UDC: 681.325.3

GORODETSKIY, M. S., BRONSHTEYN, G. V., MAYOROVA, E. A.

"Procedure for Manufacturing Code Discs of Contact Angle-Code Converters"

USSR Author's Certificate No 254221, Filed 14 Jun 68, Published 20 Jan 70 (from RZh-Avtomatika, Telemekhanika i vychislitelnaya tekhnika, No 9, Sep 70, Abstract No 9B565P)

Translation: Procedures for manufacturing code discs of contact angle-code converters based on etching or applying a thin layer of metal to a substrate of insulating material are known. However, code discs manufactured by these methods are insufficiently long-lived, and they cannot be restored because of the small thickness of the metal layer. This Author's Certificate introduces a procedure which differs from the known procedures by the fact that the code mask in the foundry mold is made of bit rings which have centering heads, orienting grooves, and fixing holes. Then they are poured under pressure from wear resistant plastic, and after hardening, the risers are removed for electric separation of the contacts. This permits manufacture of the lamella of the code disc from quenched steel, which operation increases the life appreciably. The considerable thickness of the metal permits multiple restoration of the disc by grinding its operating surface. There are four illustrations.

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USSR

UDC 621.311.25:621.039

KREVSUN, E. P. GORODETSKIY, M. YE., IL'IN, A. YA.

"Seals and Bearings of the Rotating Shafts of Dissociating Gas Atomic Electric Power Plant Units"

Dissotsiiruyushch. gazy kak teplonositeli i rab. tela energ. ustanovok -- V sb. (Dissociating Gases as Heat Transfer Agents and the Working Medium of Power Plants -- Collection of Works), Minsk, Nauka i Tekhn. Press, 1970, pp 109-114 (from RZh-Elektrotekhnika i Energetika, No 5, May 1971, Abstract No 5U48)

Translation: A study was made of the problems connected with creating reliable seals and bearings of atomic electric power plant units the working medium of which is nitrogen tetroxide, and means of solving these problems are noted. The basic difficulties are caused by the specific properties of the heat transfer agents (high oxidizing capacity, low boiling point and low viscosity of the liquid phase). This complicates the selection of the materials of the friction couples and has an effect on the operating conditions of the seals and bearings. Work is being done at the Nuclear Power Institute of the Belorussian SSR Academy of Sciences toward the creation of contactless packing units with floating rings and contact end-type packing units and also hydrostatic and hydrodynamic bearings lubricated with nitrogen tetroxide. There are 3 illustrations and a 4-entry bibliography.

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USSR

UDC 535.215.6

GORODETSKIY, S.M., GRIGOR'YEVA, G.M., KREYNIN, L.B., LAZOVSKIY, V.V., LANDSMAN, A.P., SOMINSKIY, M.S.

"Effect Of Electron Irradiation On The Recombination Parameters Of p-Silicon And The Photoelectric Characteristics Of Silicon n-p Junctions"

V sb. Radiatsion. fiz. nemet. kristallov (Radiation Physics Of Nonmetal Crystals--Collection Of Works), Minsk, Nauka i tekhn., 1970, pp 159-266 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1B269)

Translation: The results are discussed of an investigation of the bombardment of silicon photoconverters by electrons in the 0.5--18 Mev range of energies. As follows from the photoelectric characteristics presented, impairment of the photoconverters by electrons is characteristics for the case of the action of penetrating hard radiation. The energy dependence was experimentally found of the damage factor of the p-silicon base with a resistivity of 1 ohm.cm. An analysis of the changes of the dependences of the lifetime on the injection level and the temperature made it possible to draw the preliminary conclusion that the center determining the decrease of the lifetime of the p-Silicon irradiated by electrons is found at 0.2 ev above the top of the valence band and has a ratio of the electron and hole capture cross sections of ~ 100. 6 ill. 17 ref.

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Photoelectric Effect

USSR

UDC: 621.472:621.383

GORODETSKIY, S. M., GRIGOR'YEVA, G. M., KREYNIN, L. B., LANDSMAN, A. P., LAZOVSKIY, V. V., and SOMINSKIY, M. S.

"Difference in Radiation Stability of n-Type and p-Type Silicon Photoelements"

Tashkent, Geliotekhnika, No. 1, 1971, pp 3-8

Abstract: The damaging effects of cosmic radiation on earth satellite solar batteries and the study of the behavior of silicon photocells in such fields are the subjects of this article. Such studies have shown that p-type silicon is more radiation-proof than n-type, the difference in the damage sustained by the two being a function of the kind and energy of the particles bombarding them. Research conducted by the authors on the temperature dependence of minority carrier lifetimes in irradiated p-type silicon with a resistivity of 1 ohm·cm showed that the recombination center subject to electron bombardment with an energy level of 1 Mev and 8 Mev retains the same position in the forbidden zone, with a ratio of the electron capture cross section to the hole capture cross section equal to 70. Similar effects are observed in n-type silicon subjected to electron irradiation. This is essentially a review article, with a bibliography of 19 titles.

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USSR

GORODETSKIY, S. M., et al, Geliotekhnika, No. 1, 1971, pp 3-8

The authors are associated with the All-Union Order of the Labor Red Banner Scientific Research Institute of Current Sources.

UDC 537.311.33:546.28

USSR

GORODETSKIY, S.M., LAZOVSKIY, V.V.

"Recombination Characteristics Of p-Silicon Irradiated By Fast Electrons"

V sb. Radiatsion. fiz. nemet. kristallov (Radiation Physics Of Nonmetal Crystals--Collection Of Works), Minsk, Nauka i tekhn., 1970, pp 100-105 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1B28)

Translation: The liftetime was measured of minority carriers in p-silicon with a concentration of oxygen of 10^{18} cm^{-3} and with a resistivity of 1 ohm.cm, up to and after irradiation by electrons with energies of 1 and 18 Mev. An investigation of the dependences of the lifetime of the electrons on the injection level and temperature, up to and after irradiation, shows that the fast electrons with energies of 1 and 18 Mev inject the same center, located at E_V + 0.2 ev, recombination across which progresses in accordance with Shockley--Reed Statistics. The ratio of the electron-capture cross section with an empty center to the hole-capture cross section filled lies in the limits from 50 to 100 which is characteristic for centers of the donor type. 3 ill. 10 ref. Summary.

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Acc. Nr: AP0044021 Ref. Code: UR 0240

PRIMARY SOURCE: Gigiyena i Sanitariya, 1970, Nr 2, pp 45-48

PRINCIPLES UNDERLYING HYGIENIC EVALUATION OF SURFACE DEACTIVATION METHODS

Gorodinskiy, S. M.; Goldshteyn, D. S.; Fadeyev, P. Ye.

Hygienid evaluation of methods employed in surface deactivation sould include: assessment of the given method's efficiency in removing radioactive contaiminants; appraisal of the radiation situation and of its changes in the course of deactivation work; an inquiry into the influence exerted by the deactivation procedure used on hygienic properties of the surface materials; Toxico-hygienic assessment of the substances, solutions and equipment employed; appreciation of the microclimate prevalent at the time of deactivation work, and also means available for the removal of the developing radioactive waste. The listed above elements in the hygienic evaluation of surface deactivation procedures are discussed in detail.

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REEL/FRAME
19770458

USSR UDC 546.17'27'28:539.4

SAMSONOV, G. V., KAZAKOV, V. K., GORODETSKIY, S. S., and KISLYY, P. S., Institute of Problems of Material Sciences, Academy of Sciences UkrSSR

"Mechanical Properties of Nitride-Oxide Materials in the System Al_2O_3-Si_3N_4"

Kiev, Poroshkovaya Metallurgiya, No 2, Feb 74, pp 60-63

Abstract: The dependence of mechanical properties of materials in the system Al_2O_3-Si_3N_4 on composition, sintering temperature and test temperature was studied. The nitride-oxide materials were produced by pressing with subsequent sintering in a medium of nitrogen. Silicon dioxide, apparently present in the form of a fine film on the surface of the silicon nitride particles plays a significant role in sintering and, interacting with the aluminum oxide, forms mullite, which activates the sintering process. The addition of titanium dioxide to the aluminum oxide also activates sintering. The strength characteristics of substances in the system were studied at 20 and 1000° C. The strength of the materials decreases with increasing Al_2O_3 content. The optimal sintering temperatures are determined for the production of materials with maximum strength.

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USSR UDC 620.178.5

TROSHCHENKO, V. T., GRYAZNOV, B. A., GORODETSKIY, S. S., ROYTMAN, A. B., NALIMOV, Yu. S., (Kiev)

"Study of the Influence of Technological Factors on the Endurance of Gas Turbine Blades"

Kiev, Problemy Prochnosti, No 8, 1972, pp 8-12.

Abstract: This work presents an analysis of the influence of certain technological factors on the endurance of the third stage of a gas turbine engine. The blade manufactured by mechanical working of stamped blanks of EI437B vacuum-arc remelted alloy. The deviations in the technology of manufacture of the working turbine blades (scratches, burns, and additional operation called "lustering") have no significant influence on the fatigue strength of blades with a test base of 10^7 cycles at 20 and 570°C. The range of change of fatigue limits in the test blades in comparison with a control group of blades at 20°C was from -0.5% to +7%, at 570°C -- from 0 to +5%. The technological deviations studied do increase the scattering of blade test results in the area of limited durability.

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USSR UDC 620.178.5

GRYAZNOV, B. A., GORODNETSKIY, S. S., and TUGARINOV, A. S., Institute of Strength Problems, Ukrainian SSR Academy of Sciences (Kiev)

"Investigation of the Damageability of the Turbine Blades of Gas-Turbine Engines After Exhaustive Operational Wear"

Kiev, Problemy Prochnosti, No 11, Nov 73, pp 65-67

Abstract: Results are presented of the investigation of new working blades of a new turbine engine and of blades with various degrees of wear under standard operating conditions. A comparative evaluation was made of the injurious action of operational wear by means of determination of the "secondary" fatigue curves of blades that had been in operation prior to testing, and an investigation was made of changes of the physicomechanical properties of the material of blades made from alloy EI437B. An experimental evaluation of the fatigue characteristics of blades with operational wear of up to 4000 hours was conducted; regression equations of the fatigue curves were computed, and a limit surface of the carrying capacity of blades with operational wear was plotted. It was established that under standard operating conditions the finite fatigue limit of the blades on the basis of 10^7 cycles decreases over the investigated period on the average by 13-15%, and that the parameters of the fatigue model $\sigma^m N = C$ undergo change. 4 figures. 2 tables. 5 references.

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UDC 621.316.722.1(088.8)

USSR

GOKHMAN, M.S., VOLKOV, V.V., GORODETSKIY, V.A., KOSTENKO, M.A. [Spets. konstrukt. byuro "Uralchermetavtomatika"--Special Design Bureau "Ural Ferrous Metal Automatic Equipment"]

"Pulse Regulated Power Supply"

USSR Author's Certificate No 255373, filed 3 Sept 68, published 8 Apr 70 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B550P)

Translation: The block-diagram is proposed of a voltage regulator with pulse control in which is used a series key [klyuch] regulating element, a series storage choke coil, a reverse semiconductor diode, and a control circuit with a duration modulator. In order to assure triggering of the regulator during turn-on and also after emergency situations, a series circuit of a resistor and a silicon regulator is connected in parallel with the circuit of the series-connected regulating key element and the storage choke coil. 1 ill. S.D.

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USSR

UDC 621.394.74

TUMANOVSKIY, YE.I., ABUGOV, A.G., GORODETSKIY, V.I., PODAKOV, A.S.

"Status And Prospects For Development Of Automatic Telegraph Switching Technics"

Sb. nauch. tr. Kiyev. fil. TsNII svyazi (Collection Of Works Of The Kiev Branch Of The Central Scientific-Research Institute Of Communications), 1970, Issue 6, pp 10-15 (from RZh--Elektrosvyaz', No 6, June 1971, Abstract No 6.64.249)

Translation: The characteristics are presented of register stations for telegraph exchange networks and direct connections. The principal operation-technical characteristics and the principles of construction of the prospective electronic system of switching telegraph channels are considered. Summary.

1/1

USSR UDC 539.214;539.374

GORODETSKIY, V. N., BOGDANOV, V. N., BEKIN, N. G.

"On the Displacement of Material in a Longitudinally Asymmetric Rolling Process"

Sb. nauch. tr. Yaroslav. tekhnol. in-t (Collection of Scientific Works of Yaroslavl' Technological Institute), 1972, Vol. 31, pp 131-137 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V474)

Translation: The rate of longitudinal displacement of material in longitudinally asymmetric rolling of polymers is determined theoretically as applied to three cases: rolling with cylindrical nonparallel rolls, rolling with conical rolls, and bases directed toward the same side, and conical rollers with bases directed toward different sides. The material is characterized by the coefficient of Newtonian viscosity μ which is expressed in terms of the limiting value of the stress of the shift $\tau = A_{erf}(B, \dot{\gamma})$, as $\dot{\gamma} \to \infty$. The unknown rate is determined by applying the formula for the average rate in the form of an integral which is a function of the coordinates of the input and output of the material from the deformation region. Formulas are also used reflecting the corresponding geometrical structures. 6 ref. M. I. Rozovskiy.

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USSR UDC 539.214;539.374

GORODETSKIY, V. N., BOGDANOV, V. N., BEKIN, N. G.

"On the Velocity Distribution of a Material in the Rolling Process"

Sb. nauch. tr. Yaroslav. tekhnol. in-t (Collection of Scientific Works of Yaroslavl' Technological Institute), 1972, Vol. 31, pp 16-19 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V473)

Translation: The steady-state nonsymmetric process of the rolling of a non-Newtonian material in the deformation region between cylindrical rolls is discussed. A statistical law for the flow of the material is used: $\tau = A_{eff}(B\dot{\gamma})$. This is approximated by a broken line. In the above expression τ is the shift stress, $\dot{\gamma}$ is the velocity gradient, and A and B are parameters. It is assumed that the reworked material is incompressible. The desired velocity curves are represented in the form of parabolas $v = a + cy + by^2$, the coefficients of which a, b, and c are determined by applying the principle of minimum of total deformation energy. M. I. Rozovskiy.

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USSR

UDC 539.412.1

GORODETSKIY, V. N., KOZLOV, I. A., VASILENKO, L. P., Kiev

"The Question of the Strength of Disks with Inclined Rim"

Problemy Prochnosti, No 3, 1972, pp 28-30.

Abstract: Results are presented from experimental tests of two methods of designing inclined disks. The actual influence of the area of contact between rim and hub on the stress state of the disk is demonstrated. Values of coefficients describing the increase in true stresses in the dangerous area of inclined disks are presented.

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USSR UDC 539.4.013

KOZLOV, I. A., GORODETSKIY, V. N., AKHREMENKO, V. L., Institute of Problems of Strength, Academy of Sciences UkrSSR, Kiev

"Study of the Stress State in Chamfers of Discs"

Kiev, Problemy prochnosti, No. 8, Aug 71, pp 14-17

Abstract: A stress concentrator in the form of a chamfer was studied as a function of its radius and the effect of the radius of the chamfer on the baring capacity of the disc. The experiments were conducted on discs with an external diameter of 245 mm with a hub diameter of 60 mm and a central opening diameter of 30 mm. The ratio of the thickness of the disc to the diameter was 0.0612. Five models of the disc were made with chamfer radii of 5, 10, 15, 25 and 35 mm. The discs were made of St. 5 steel with a strength limit σ_B = 54 kG/mm^2 and δ_{10} = 16.5%. All measurements were made in the elastic region of deformation at 12,000 rev/min at normal temperatures. The breaking revolutions of the discs are shown as the ratio of the maximum revolutions of the disc to the maximum revolutions of a disc with a chamfer radius of 5 mm. It was found that the carrying capacity of discs increases with an increase in the chamfer radius

but that the breaking revolutions of the disc with a chamfer radius of 35 mm was only 20% greater (34,240 rev/min) than for a disc with a chamfer radius of 5 mm. This slight increase is explained by the fact that the material redistributes the stresses well in the region of plastic deformation and the carrying capacity is basically characterized by the area of the transverse cross section, which with a fixed external diameter and hub diameter and with a variable chamfer radius increases parabolically. Since destruction of all models began in the zone of maximum stress at the chamfer, total balancing of stresses did not occur at the time of breaking. It is concluded from the study that the radius of the chamfer has a considerable effect on the carrying capacity of discs made only from brittle or low-plastic materials since the greatest stresses in the disc ordinarily arise in this region considering the coefficient of stress concentration.

1/2 010 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--OSCILLOPOLAROGRAPHY OF PYRIMIDO TRIAZOLES IN THE PRESENCE OF METAL IONS AS INDICATORS -U-
AUTHOR-(02)-GORODHOVSKAYA, V.I., ARKHANGELSKAYA, YE.D.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25-1, 166-71

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL ANALYSIS, ORGANIC AZOLE COMPOUND, COPPER, PYRIMIDINE, AMINE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0711 STEP NO--UR/0075/70/025/001/0166/0171

CIRC ACCESSION NO--AP0113575
UNCLASSIFIED

USSR

UDC 621.376.5

MARTYNOV, I.D., GORODILOV, YU.S., ZALAVSKIY, B.S.

"Device For Selection And Conversion Into Binary Pulses Of The Envelope Of A Voice Signal"

USSR Author's Certificate No 269998, filed 19 Apr 68, published 13 Aug 70 (from RZh--Elektrosvyaz', No 2, February 1971, Abstract No 2.64.126P)

Translation: The circuit is proposed of a device for selection and conversion into binary pulses of the envelope of a voice signal. The device is connected to the output of a rectifier [vypryamitel'] and is made up of a voltage-frequency converter, a valve, and a binary counter, each of the cells of which is connected with the corresponding cell of the unit fixing the binary pulses. It is shown that the proposed device differs from those known by its simplicity and the decrease of distortions. 1 ill. D.B.

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2/2 010 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0113575

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VOLTAMMETRIC OSCILLOPOLAROGRAPHY OF 5 METHYL S TRIAZOLO (1,5-A) PYRIMIDIN -7 (4H) ONE, 7 METHYL S TRIAZOLO (4,3 A) PYRIMIDIN 5(8H) ONE AND 5 METHYL S TRIAZOLO (1,5,A) PYRIMIDINE-7(4H THIONE WITH HG ELECTRODE WAS STUDIED. THE OXY DERIVS. CAN BE DETD. BY THE ABSORPTION PEAK OF THE COMPLEX FORMED WITH CU(II), OR BY THE PEAK OF THE ETIOLAMINE CUBRIC COMPLEX IN A SPECIALLY PREPD. MIXT. OF THE TEST SUBSTANCE SOLN. AND THE STD. SOLN. OF CU(II) INDICATING IONS. THE FORMER METHOD IS MORE SENSITIVE. THE HEIGHT OF THE OSCILLOGRAPHIC PEAKS DEPENDS ON THE CONCN. OF METAL IONS AND ON THE SUBSTANCE WITH WHICH THEY REACT. FACILITY: KAZAN CHEM. TECHNOL. INST. , KAZAN, USSR.

USSR UDC: 616-006.092.9-097.3

BABAKOVA, S.V., DODONOVA, N.N., TSETLIN, YE.M., GORODILOVA, V.V., AGEYENKO, A.I., and ALTSHTEYN, A.D., Laboratory of Virology Moscow Scientific Research Institute of Oncology imeni P. A. Herzen and Laboratory of Enterovirus and Adenovirus Preparations, State Control Institute of Medical Biological Preparations imeni L. A. Tarasevich.

"Induction of Specific Antitumor Immunity in Hamsters with Green Monkey Adenovirus SA7(C8)."

Leningrad, Voprosy Oncologii, Vol 16, No 3, 1970, pp 40-46

Abstract: Strain SA7(C8) of green monkey adenovirus, highly oncogenic for hamsters, and its large-plaque and small-plaque variants, can induce specific antitumor immunity in adult hamsters. Large-plaque and small-plaque variants of virus SA7(C8) do not differ in their capacity to induce antitumor immunity. A high dose of virus SA7(C8), more than 10^5 TCD_{50}, is required to induce antitumor immunity. Immunity developed during the first week after inoculation of the virus. Cells of transplanted tumor lines regularly contain specific transplantation antigen. In cells of primary tumors induced by adenovirus SA7(C8), transplantation antigen could be found in only some cases.

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USSR UDC 661.143(088.8)

BABITSKAYA, R. A., GORODINA, Z. F., ZYTNER, G. G., KOROVICHEVA, V. R., MARKOVSKIY, L. YA.

"Procedure for Obtaining a Luminescent Compound"

USSR Author's Certificate No 312864, filed 18 Aug 69, published 2 Dec 71 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12L187P)

Translation: In order to reduce the cost and to obtain luminescent compounds which are efficient with respect to brightness of their luminescence, group III metal orthovanadate and orthophosphate are used in combination with mixed group II metal orthovanadate and orthophosphate. Various rare-earth elements or a mixture of a rare-earth element and Bi is used as the activator. The activator and Bi are taken in the amount of 0.01-0.2 g/atom per mole of final product. The luminous compound obtained by the proposed procedure corresponds, for example, to the formula: $Me_{(3-1.5x)}^{2+}Me_x^{3+}(P_{1-y}K_yO_4)_2 \cdot zA$ where Me^{2+} are Ca^{2+} or Sr^{2+} ions with partial replacement by Zn^{2+} or Mg^{2+} ions; the Me^{3+} are Y^{3+} or La^{3+} or Al^{3+} ions; K is a group V element of the periodic system, for example, V; A are the activator ions Sn^{2+} or Eu^{3+} or Sm^{3+} or combined with a sensitizer, for example, Bi; $0.05 \leq x \leq 0.5$; $0 \leq y \leq 0.5$; $0.01 \leq z \leq 0.2$. In order to obtain the compound, the charge components are

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USSR

BABITSKAYA, R. A., et al., USSR Author's Certificate No 312864, filed 18 Aug 69, published 2 Dec 71

mixed in advance and baked in the air or (in the case of using Sn^{2+}) in the presence of a reducing agent at a temperature of 600-1,200° for 2-4 hours. The luminescent compounds obtained are excited by a broad range of UV radiation.

2/2

USSR

GORODINSKIY F.

"The Two-Faced Virus"

Moscow, Znaniye-Sila, No 7, Jul 70, pp 4-5

Translation: The Committee on Inventions and Discoveries, Council of Ministers USSR, has issued a certificate of discovery to two scientists: Member of the Academy of Medical Sciences Viktor Mikhaylovich Zhdanov and Candidate of Medical Sciences Gediminas Chepulis. Here is the essence of the discovery: the previously unknown fact has been experimentally established that animals receptive to (or tolerant of) antigens of foreign uninfected cells lose their natural immunity to myxovirus (for instance, influenza-like) infections when these antigens are present in the structure of the myxoviruses. The number of the certificate is 72. This means that previously only 71 certificates for scientific discoveries have been issued in all (!) fields of science. This is only the second time in the entire half-century of Soviet science that a certificate of discovery has been issued in the field of virology. Therefore, this is not a matter of the "next scheduled" scientific research job, but of an investigation extending beyond the sphere of scientific events that attract only the attention of specialists. What is actually behind this formulation of the discovery?

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"...the loss of natural immunity to myxoviral infection..." In recent times, these myxoviruses have been attracting the increasingly close attention of scientists. They differ from their relatives in the virus kingdom by the helical structure of the so-called nucleocapsid -- the body of the virus, consisting of RNA and protein -- and also by the fact that they cause brief but acute and frequently severe diseases of the upper respiratory tract. It is precisely the myxrovirus that disregards state boundaries and uses the most rapid means of communication, which breaks into large and small countries and holds its ruinous "feasts" on entire continents. Influenza! This is one of the most important "spheres of activity" of the myxovirus. There is no need to recall the devastating epidemic of Spanish flu, which was contracted by 550 million people all over the world in 1918. Yet the Spanish flu that took millions of lives was simply influenza. At the time of the influenza pandemic that raged in 1957, 2 billion people were sick. However, not only people suffer from influenza. Animals also suffer from influenza, only of their own variety. Hogs, horses, geese, and ducks can have influenza. At the same time, people are not infected by the virus of swine influenza or duck influenza. Never. Under no circumstances. Even though externally, under the electron microscope, these viruses are almost undistinguishable.

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Newcastle disease virus (this will be discussed later on, for it was the subject of investigations by G. Chepulis and V. Zhdanov) infects only chickens, turkeys, pheasants, pigeons, and peafowl. This disease, however, which is also called pseudopest never occurs in white mice. Repeated attempts have been made to infect mice with it, but all attempts have been unsuccessful. White mice have a natural immunity to this virus. Until now, nothing has upset the traditional conceptions of the natural immunity of the organism, of this invisible but utterly insurmountable barrier. If dogs do not contract rinderpest, then no matter what is done, it is impossible to make them contract it. The antibodies in the dog's organism immediately attack the invading viruses. They unerringly detect the dangerous foreign protein antigens, and by various means -- dissolving them or agglutinating them, very quickly render them harmless. In 1944, however, the scientist Knight detected a curious quality in myxoviruses. It appears that they are capable of including part of the cell of their host into their own coat. Since they are 100% parasites, the viruses replicate only inside the cells of a living organism. Like real robbers, upon leaving the captured and destroyed cell they take away with them protein, carbohydrate, and fat particles from the already destroyed shelter. They do not include these acquisitions in their nucleocapsid but distribute them

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on their surface; they dress, as it were, in stolen goods. In this manner, the virus particle appears in the cloak or armor of cellular proteins specific to the host animals. Almost 25 years have passed since the time that Knight "caught" myxoviruses appropriating another's property. During this time, similar tendencies were observed also in certain viruses which cause cancer. But why is there such a virus? The working hypothesis evolved by V. Zhdanov and G. Chepulis amounts briefly to the following: the organism perceives the particles of its own cells as something related to it, and therefore, having become the "cloak" of the virus, these particles serve as a kind of smokescreen, under cover of which the virus penetrates the cell. Once there, it feels free to do as it pleases! Discarding the protective cloak, the virus begins to multiply and to destroy cells at an alarming rate. The investigators selected for their experiment Newcastle disease virus (avian pseudopest) and white mice, which, as has been mentioned, are totally nonsusceptible to this disease. The task of the investigators was to infect the mouse with the chicken's disease. Yet, the chicken and the mouse belong to different classes of the animal kingdom! G. Chepulis and V. Zhdanov began with a bypassing maneuver.

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The organism possesses natural immunity. However, this immunity arises at various times in various species of animals and in man. For instance, protective immune reactions in white mice are observed 48 hours after birth. Both the mouse embryo and the newborn baby mouse (like the newborn human infant) accept a foreign protein relatively calmly. This fact constituted the loophole required to circumvent immunity and "accustom" the mice to the chicken antigens alien to them. The scientists administered an infusion to newborn white mice. The tiny baby mice, smaller than a thimble, received a dose of foreign proteins containing a varied selection from various tissues and organs of an unhatched chick. Now it remained to wait a few months until the mice grew up, in order to check whether they had become insensitive to chicken protein. Finally the time arrived. They could begin the decisive stage of the experiment. Under light ether anesthesia, a substantial dose of Newcastle disease virus was dripped into the nose of the mice. Into the nose, because Newcastle disease, like other myxovirus diseases, affects the respiratory tract. Now, if the hypothesis is correct, the mice tolerant to -- "acquainted with" -- the foreign chicken protein should contract Newcastle disease. For the cell particles from chick embryos located on the surface of the virus will not be opposed by the organism of the mouse. And in that case the virus will penetrate the mouse cells with the same ease with which it penetrates

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the cells in the organism of its legitimate hosts, chickens, turkeys, and guinea fowl. By the third or fourth day after administration of the virus, some mice in the experiment began to die. This happened while the control animals were in the best of health. It would seem that this was a true indication of disease. However, this is no proof for the virologist. The virus itself has to be detected, its activity has to be ascertained, and the cells disfigured by it must be seen. And the virus was detected! Detected in mice that had never suffered from Newcastle disease. They could not. However, this is not all. Let us return for a moment to the initial hypothesis. The scientists proceeded from the fact that the myxovirus includes in its "cloak" cell elements from host animals. The first arrivals got through only because they got into the organism of preliminarily "processed" animals with induced tolerance. However, the virus has now penetrated the cells of the mouse. It has discarded the cloak no longer necessary for it, and the stamping of others like itself has begun. It is difficult to select another designation for the process of replication of the viruses. It is at the same time both the stamping of parts and the assembling of finished viruses from these parts. Having broken to bits everything in one cell, the viruses move over into another, where everything starts again from the beginning, and so on. However, when they

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leave, the viruses do not forget to make up "cloaks" for themselves. What are they made of now? After all, the myxoviruses use readymade components of the host cells, and the best is now a different one, the white mouse. Consequently, the viruses have now acquired for their armor totally different proteins, carbonydrates, and lipids. Those of the mouse. In its new garb the virus is capable of infecting the ordinary white mouse, the one that has no tolerance and is unacquainted with the protein structures of the chicken embryo. In order to test this assumption, a small dose of viruses taken from the respiratory tract of the sick mouse was given to an ordinary animal which was immune to Newcastle disease. After only 3 days, the animal that had stable natural immunity to Newcastle disease contracted the disease. This is more than paradoxical, this is stupendous. I am being told about this beautiful experiment by Gediminas Chapulis, or Gedas, as everybody calls him at the Institute of Virology. He speaks with a slight accent. He is a Lithuanian. The young candidate of medical sciences has done all of his work under the guidance of Viktor Mikhaylovich Zhdanov. I understand the happiness of the young scientist. For here the experiment confirmed an especially speculative theoretical hypothesis. Nobody could actually see on the live virus how the species-specific antigen, which forces the doors leading to the cell as if with a skeleton key is actually distributed over the surface of the

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virus. In the electron microscope the scientists see not living matter but a specially prepared specimen. In addition, the electron flow is lethal for viruses. And on the virus antifacts in the specimen, a great deal is changed and distorted. Besides, we are talking of molecular dimensions. The diameter of the ribonucleoprotein of myxoviruses is 50-60 angstroms. The successfully completed investigation has shed light on several circumstances connected with the tremendous mutability of influenza viruses. It has been proven that, even in the case of so-called viremia in which there are many viruses in the blood, it is possible that there will be no response in the form of immune reactions, no production of antibodies in response to the viruses. Finally, it is of great importance that the biological role of the cell particles in which the virus wraps itself -- its Trojan Horse -- has been established.

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1/2 018 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--COOR OF RUSSIAN LEATHERS AND MEASURES FOR REDUCING IT -U-

AUTHOR-(05)-ARBUZOV, S.V., GORODINSKIY, L.L., MIRONOV, F.V., SUVOROVA, V.P., SUCHKOV, V.G.
COUNTRY OF INFO--USSR

6

SOURCE--KOZH. OBUV. PROM. 1970, 12(3), 46-51

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--LEATHER, SYNTHETIC OIL, SPECIALIZED COATING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1735 STEP NO--UR/0498/70/012/003/0046/0051

CIRC ACCESSION NO--AP0125356

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0125356

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MEASURES INCLUDE REDUCING THE TEMP. AND DURATION OF MANY OPERATIONS, ESP. FOR BACTERIAL AND IMPORTED RAW HIDES (THE SOFTENING PROCESS WAS ELIMINATED FOR THEM); ELIMINATING NA SUB2 SO SUB3 IN THE ALKALI SOAKING BATH; USING AN OP TYPE EMULSIFIER IN THE DECALCIFYING BATH; USING ACID BLACK S AND FIXER F DURING DYEING AND FIXER F DURING OILING; SALT TREATING INSTEAD OF PICKLING TO HARDEN THE DERMA AND FACE LAYER, ESP. OF BACTERIAL AND IMPORTED STOCKS; LOWERING AIR TEMPS. DURING DRYING; INCREASING THE AMT. OF SYNTHETIC OIL IN MIXTS. WITH FISH OIL; AND COATING WITH ACRYLIC EMULSIONS.

UNCLASSIFIED

USSR UDC 614.89

GORODINSKIY, S. M.

Sredstva individual'noy zashchity dlya rabot s radioaktivnymi veshchestvami (Personal Protective Devices for Working With Radioactive Substances), Second Ed., Revised and Expanded, Moscow, Atomizdat, 1973, 295 pp, 5,500 copies printed

Annotation

The book examines the basic theoretical and practical questions that relate to protective devices for people working with radioactive substances. Basic designs of devices for the protection of the respiratory organs and the skin are described under various conditions in working with radioactive materials.

Many years of experience in research and design work performed by the laboratory under the direction of the author in the area of protective devices is summarized.

The book devotes much attention to the methods of the physiological-hygienic appraisal and verification of the protective effectiveness, correct operation and decontamination of personal protective devices.

47 tables, 86 figures, 426 bibliographic titles.

Contents

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GORODINSKIY, S. M., Sredstva individual'noy zashchity dlya rabot a radioaktivnymi veshchestvami, Atomizdat, 1973, 295 pp

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GORODINSKIY, S. M., Sredstva individual'noy zashchity dlya rabot s radioaktivnymi veshchestvami, Atomizat, 1973, 295 pp

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GORODINSKIY, S. M., Sredstva individual'noy zashchity dlya rabot s radioaktivnymi veshchestvami, Atomizat, 1973, 295 pp

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GORODINSKIY, S. M., Sredstva individual'noy zashchity dlya rabot s radioaktivnymi veshchestvami, Atomizdat, 1973, 295 pp

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USSR

UDC 612.792-06:612.591

GORODINSKIY, S. M., BAVRO, G. V., and IVANOV, G. A., Institute of Biophysics, Ministry of Health USSR

"Some Characteristics of Perspiration in Man Exposed to High Temperatures"

Moscow, Gigiyena i Sanitariya, No 10, 1971, pp 33-36

Abstract: The purpose of the experiments was to determine the parts of the human body that perspire most after exposure to high temperatures. Moisture absorbents were applied as sensors to the head, trunk, arms, and legs of 15 subjects at rest and while exercising on a bicycle ergometer at temperatures of 50 and 38°C, respectively. In the resting subjects, perspiration appeared first and then became more intense on the forehead, neck, above the sternum, along the spine (rhomboid field), lower third of the forearms, dorsal surface of the wrists, knee joints, anterior surface of the shins, and dorsal surface of the feet. The perspiration gradually spread to the entire chest, back, shoulders, and thighs, involving all the sweat glands. The zones of intensive perspiration in the subjects riding the bicycle ergometer were found to be the same as in those at rest. The reason is that the intensity of perspiration is determined not by the number of sweat glands in a particular portion of skin but by the level of their activity, which is largely a function of the

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GORODINSKIY, S. M., et al., Gigiyena i Sanitariya, No 10, 1971, pp 33-36

blood supply. The latter is particularly rich over tendons (aponeuroses) and the less developed muscles. The skin over the well-developed muscles of the extremities perspires much less than on the forehead, small of the back, or chest.

GORODINSKIY, S. M.

Space Physiology

SO: JPRS 53801
12 Aug 71

UDC 614.895.5:612.5

FORMULATION OF PHYSIOLOGICAL PRINCIPLES FOR RATIONAL HEAT TRANSFER IN INDIVIDUAL INSULATING GEAR

[Article by S. M. Gorodinskiy (Space physiology) and G. A. Ivanov; Moscow, Kosmicheskaya biologiya i meditsina, Russian, Vol 5, No 3, 1971, pp 36-42, submitted 29 April 1970]

Abstract: Experimental data are given on validating the physiological principles for approach to heat transfer in an individual insulating suit. The body regions from which the most effective heat transfer can be ensured because of their anatomical-physiological characteristics were determined. The undesirability of heat transfer primarily from body regions situated over the main muscle groups of the extremities is noted; this is true because the conditions for heat removal from them are less favorable than from the sectors situated over tendons and poorly expressed muscle layers and the possibility of local overcooling of the muscles can lead to a decrease in their performance.

Maintenance of the principal constants of the body internal medium, including thermal, is an indispensable condition for its normal vital functioning.

Within a relatively small range of fluctuations of meteorological conditions the maintenance of body heat content within the range of its optimum values is attained by means of physiological heat regulation mechanisms. However, beyond this range one must have recourse to artificial systems which narrow the range of fluctuations of environmental thermal factors (clothing, housing, etc.). Artificial heat regulating systems assume particular importance under conditions excluding or sharply excluding heat transfer by the body into the surrounding medium, for example, when using means for individual protection: insulating suits.

In order to remove metabolic heat when man works in individual [illegible] protection equipment, different methods are being developed

GORODINSKIY, S.M.

space physiology

SO: JPRS 54962

28 Dec 71

UDC 612.015.3-06:614.895.3

RATE OF ELIMINATION OF METABOLIC PRODUCTS FROM MAN CONFINED IN INSULATING GEAR (FOR DIFFERENT PHYSICAL LOADS AND DIETS)

[Article by S. M. Gorodinskiy, A. V. Sedov, A. N. Mazin, G. A. Gaziyev, A. P. Klepikova and L. I. Shumova; Moscow, Kosmicheskaya biologiya i meditsina, Russian, Vol 5, No 5, 1971, submitted for publication 12 May 1969, pp 68-72]

Abstract: Test subjects were given special diets and kept either at rest or performing work at a rate of 200 and 400 Cal/hour in a normal atmosphere. Under these conditions the rate at which they released volatile and gaseous toxic compounds was measured. The subjects who consumed the diets exhibited a significant decrease in the exhalation of hydrogen sulfide, acetone, phenol, ammonia and amines in comparison with subjects who ate as they chose. The diets did not affect the rate of elimination of carbon monoxide and carbon dioxide.

In insuring the vital functions of human subjects in a tightly sealed space, including insulating gear, it is of great importance to maintain an optimum atmospheric composition, one of whose principal sources of contamination is man. In designing life-support systems it is essential to know the qualitative and quantitative characteristics of gaseous substances eliminated by man in dependence on the microclimatic conditions in the space beneath the suit.

As a result of our experimental investigations it was established that the rate of human elimination of metabolic products is dependent on the degree of atmospheric rarefaction, ambient temperature, and amount of physical work performed (S. M. Gorodinskiy, et al., 1968, 1969). However, in the Soviet and in the available foreign literature we were unable to find information on change in the rate of elimination of metabolites in the space beneath the helmet and suit in relation to diet.

1/2 058 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--SANITARY CHEMICAL AND HYGIENIC STUDIES OF GAS LIBERATION FROM POLYMER MATERIALS USED AS INSULATION -U-

AUTHOR-(04)-GORODINSKIY, S.M., GAZIYEV, G.A., KOSTERINA, E.I., SEMENENKO, E.I.

COUNTRY OF INFO--USSR

SOURCE--PLAST MASSY 1970, (2), 71-4

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TOXICITY, INDUSTRIAL HYGIENE, INSULATING MATERIAL, POLYETHYLENE, POLYVINYL CHLORIDE, POLYSTYRENE CHLORIDE,RESIN, POLYCARBONATE RESIN, CAPRONE, EPOXY RESIN, PAINT, VARNISH, METHYL METHACRYLATE, CHEMICAL STABILIZER, REINFORCED PLASTIC, GAS STATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0664 STEP NO--UR/0191/70/000/002/0071/0074

CIRC ACCESSION NO--AP0119572

UNCLASSIFIED

2/2 058 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119572

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TOXICITY AND ODOR OF SIMILAR TO 50 POLYMERS, E. G., POLYETHYLENE, POLY(VINYL CHLORIDE), POLYSTYRENE, POLYCARBONATE, KAPRON, EPOXY RESINS, PAINT AND VARNISH MATERIALS (I) (PREPD. FROM STYRENE-ME AND METHACRYLATE COPOLYMERS) AND GLASS FIBER REINFORCED PLASTICS (II) WERE STUDIED AT MINUS 55 PLUS OR MINUS 5DEGREES AND NORMAL PRESSURE. I AND II LIBERATED TOXIC SUBSTANCES AND HAD A PUNGENT ODOR. THE KINETICS OF GLASS EVOLUTION FROM POLYMERS INDICATED THAT PRELIMINARY HEAT TREATMENT AND VACUUM TREATMENT OF RAW MATERIALS OR FINISHED PRODUCTS REDUCED THE CONTENT OF TOXIC SUBSTANCES IN THE EVOLVED GASES. CHEM. MODIFICATION WITH STABILIZERS, HARDENERS, AND ANTIAGING AGENTS WAS MORE EFFECTIVE. MODIFICATION OF I WITH POLYEHTYLENE POLYAMINE REDUCED THE CONCN. OF THE EVOLVED EPICHLOROHYDRIN, WHEREAS PRELIMINARY HEAT TREATMENT LOWERED THE CONCN. OF PHME IN THE GAS PHASE.

UNCLASSIFIED

1/2 031 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PROBLEM OF HUMAN TOLERANCE UNDER THERMAL STRESSES -U-

AUTHOR-(03)-GORODINSKIY, S.M., BAVRO, G.V., KUZNETS, YE.I.

COUNTRY OF INFO--USSR

SOURCE--KOSMICHESKAIA BIOLOGIIA I MEDITSINA, VOL. 4, JAN.-FEB. 1970, P. 30-34
DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--THERMAL STRESS, BODY TEMPERATURE, HUMAN PHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0289 STEP NO--UR/0453/70/004/000/0030/0034

CIRC ACCESSION NO--AP0120978
UNCLASSIFIED

2/2 031 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0120978

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF THE VALUE OF VARIOUS PHYSIOLOGICAL INDICES AS CRITERIA OF THE THERMAL STRESS TOLERANCE OF MAN. RECTAL TEMPERATURE IS FOUND TO BE AN INSUFFICIENTLY INFORMATIVE CREITERION OF THERMAL STRESS TOLERANCE. A CLOSER RELATION IS ESTABLISHED BETWEEN TOLERANCE AND THE THERMAL CONDITION OF THE BODY SURFACE. IT IS ALSO SHOWN THAT THE MEAN TEMPERATURE OF THE BODY IS A USEFUL CRITERION AND THAT THE TOLERANCE CAN BE VARIED SUBSTANTIALLY BY LOCALIZED COOLING OF PORTIONS OF THE BODY.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--SOME SPECIFIC FUNCTIONAL FEATURES OF THE STATE OF ADRENAL CORTEX AT DIFFERENT PERIODS OF PREGNACY IN PATIENTS WITH TORPID RECURRENT

AUTHOR--GORODKOV, V.N.

COUNTRY OF INFO--USSR

SOURCE--AKUSH GINEKOL 46(1): 43-48. 1970.

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GYNECOLOGY, HEART DISEASE, BLOOD CHEMISTRY, CORTICOSTEROID, URINE, EXCRETION, 17 HYDROXYCORTICOSTEROID, BLOOD SERUM, SODIUM COMPOUND, POTASSIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0250 STEP NO--UR/0580/70/046/001/0043/0048

CIRC ACCESSION NO--AP0134055
UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0134055
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN 112 WOMEN SUFFERING FROM RHEUMOCARDITIS AT DIFFERENT TERMS OF PREGNANCY THE URINARY EXCRETION OF 17 HYDROCORTICOSTEROIDS AND NEUTRAL 17 KETOSTEROIDS AND THE CONTENT OF NA, K, CA AND INORGANIC P IN THE BLOOD SERUM WERE EXAMINED. THERE WAS A STATISTICALLY SIGNIFICANT DECREASE OF URINARY EXCRETION OF 17 HYDROOXYCORTICOSTEROIDS AND NEUTRAL 17 KETOSTEROIDS IN WOMEN SUFFERING FROM RECURRENT RHEUMOCARDITIS IN COMPARISON WITH HEALTHY PREGNANT WOMEN. THERE WAS A PROGRESSIVE RISE OF THE NA LEVEL AND A REDUCTION OF THE CONTENT OF K IN THE BLOOD SERUM. THE DYSCORTICISM MAY PLAY A CERTAIN ROLE IN THE MORE FREQUENT OCCURRENCE OF TOXEMIA OF PREGNANCY IN WOMEN WITH RHEUMOCARDITIS. FACILITY: IVANOVO MED. INST., IVANOVO, USSR.

UNCLASSIFIED

USSR UDC 541.183.24:661.183.123

GORODNEV, M. S., SALADADZE, K. M., KOTRELEV, M. V., URMAN, YA. G., and ZHUKOV, M. A., Scientific Research Institute of Plastics, Moscow

"Investigation of the Thermal Stability of Anionites"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, Vyp 8, No 2, p 2154

Translation: The effect of heat on the physicochemical properties of anionites made from vynilpuridine monomers of the series was studied.

It was established by differential thermal analysis and thermogravimetry that when anionites are heated in air, two endothermic effects are observed - dehydration and degradation.

It was demonstrated that the physicochemical properties of anion exchangers remain practically unchanged up to 160°C.

USSR

UDC 621.391

GORODNICHIN, N. T., ZAKRASNYANYY, F. D., KOTOV, P. A., METAL'NIKOV, N. I., TSVETKOV, V. A.

"A Device for Forming an 'Interrogate' Signal in Nonredundant Code"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 6, 1970, p 31, patent No 262153, filed 6 May 68

Abstract: This Author's Certificate introduces a device for forming an "interrogate" signal in nonredundant code in discrete data transmission systems with resolving feedback. The device contains a switching unit, two flip-flops, a frequency-halving divider, a frequency divider for division by seven, a memory cell, an error detection unit and an output transmitter relay. As a distinguishing feature of the patent, high reliability is assured in reception by connecting the outputs of the frequency-halving divider to the two inputs of the first flip-flop, connecting the outputs of the first flip-flop to the inputs of the output transmitter relay, and connecting the output of the transmitter relay to the input of the switching unit. The first output of the frequency divider for division by seven, which corresponds to the first cycle, is connected to the first input of the second flip-flop, while the second output, which corresponds to the third cycle, is connected to the input of the memory cell. The second input of the memory cell is connected to the output of the error detection unit, and the output

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GORODNICHIN, N. T., et al, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 6, 1970, p 31, patent No 262153, filed 6 May 68

is connected to the second input of the second flip-flop. The first and second outputs of the second flip-flop are connected to the inputs of the switching unit.

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USSR

GORODNITSKIY, A. M., Institute of Arctic Geology

"Fish Swim by a 'Compass'"

Moscow, Zemlya i Vselennaya, No 2, 1973, pp 11-14

Abstract: To test the hypothesis that migratory fishes seem to orient themselves by a "compass," i.e., by the earth's magnetic field, the author and other investigators performed a series of experiments with the European eel. This inhabitant of small and large rivers from Scandinavia to Gibraltar lives in freshwater water 6 to 19 years and then proceeds to spawn to the Sargasso Sea, to which it invariably travels in a northeast to southwest direction. Young eels were released into a specially designed labyrinth-tank and the direction in which they swam was observed. The results showed that in 95% of the cases they swam to the southwest corner of the tank, but when the earth's magnetic field was compensated by an artificial magnet (Helmholtz coils placed around the tank), the eels traveled different routes with approximately the same frequency. Neither the time of year, time of day, water temperature, dissolved salts, hunger or satiety deflected the fishes when under the influence of the earth's magnetic field. Other experiments demonstrated the presence of biological "clocks" in addition to a "compass," but no correlation between the two phenomena was detected.

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1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--CATION ACTIVE DEMULSIFIERS FOR PETROLEUM EMULSIONS -U-

AUTHOR--GORODNOV, V.P.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,577
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, AMINE DERIVATIVE, FATTY ACID, PETROLEUM EMULSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/0085 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0127712
UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AA0127712
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CATION ACTIVE DEMULSIFIER OFR PETROLEUM EMULSIONS IS PREPD. BY TREATING THE MONOESTER OF TRIETHANOLAMINE AND C SUB5 C SUB9, C SUB7 C SUB7, OR C SUB10 C SUB16 SYNTHETIC FATTY ACIDS SEPD. IN PARAFFIN OXIDN. WITH ALKYLATING AGENTS, E.G. ME, ET, OR BENZYL CHLORIDES, DI ME OR DI ET SULFATES, OR ETHYLENE CHLOROHYDRIN. FACILITY: STATE DESIGN AND PLANNING SCIENTIFIC RESEARCH INSTITUTE FOR THE PETROLEUM EXTRACTION INDUSTRY.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201010009-6"

1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CATION ACTIVE DEMULSIFER -U-

AUTHOR-(02)-GORODNOV, V.P., PETROV, A.A.

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COUNTRY OF INFO--USSR

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REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI, 1970,
DATE PUBLISHED--01APR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHEMICAL PATENT, ESTERIFICATION, FATTY ACID, BENZENE, TOLUENE, SULFONIC ACID, NAPHTHALENE, SULFURIC ACID, AROMATIC CARBOXYLIC ACID, AMINE DERIVATIVE, ALCOHOL, PETROLEUM DEMULSIFICATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1797 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0130630
UNCLASSIFIED

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CIRC ACCESSION NO--AA0130630

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CATION ACTIVE DEMULSIFIER OF PETROLEUM EMULSIONS WAS PREPD. BY TREATING AN AMINO ALC. WITH LOW-MOL.-WT. ORG. OR INORG. ACIDS, FOLLOWED BY ESTERIFICATION OF THE RESULTING SALT WITH C SUB7-9 OR C SUB10-16 SYNTHETIC FATTY ACIDS. MONO, DI, OR TRIETHANOLAMINE, TRIMETHYLOLAMINOMETHANE, ETHYLOLDIMETHYLAMINE, AND ETHYLOLDIETHYLAMINE WERE THE AMINO ALCS. BENZENE, P-TOLUENE OR NAPHTHALENESULFONIC ACIDS WERE THE ORG. ACIDS, AND H SUB2 SO SUB4 AND H SUB3 PO SUB4 WERE THE INORG. ACIDS. FACILITY: STATE DESIGN AND PLANNING SCIENTIFIC RESEARCH INSTITUTE FOR THE PETROLEUM EXTRACTION INDUSTRY.

UNCLASSIFIED

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UDC 613.644:621.983.3

TARTAKOVSKAYA, L. Ya. and GORODNOVA, N. V., Sverdlovsk Institute of Industrial Hygiene and Occupational Diseases

"The Effect of Vibration on Billet Chippers and Rolled Iron Chippers"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 2, 1970, pp 12-14

Abstract: Vibration of the air hammers used by chippers is transmitted from the handle not only to the hands, but also to the chin, knee joint, and shoulder. Examination of 130 chippers with an average work experience of 15 years revealed the presence of vibration disease in 35. Characteristic symptoms of the first stage included fleeting pains in the arms and legs, paresthesia, numbness of the arms during sleep, and some autonomic disturbances. In the second stage the pains were more intense and persistent. Paresthesia and numbness occurred not only at rest but during strenuous work, especially when the arms were raised. The autonomic disturbances of the extremities were more pronounced. With the onset of the third stage the pains in the extremities were almost constant. Autonomic and vascular disturbances became more marked and the areas of hypesthesia enlarged.

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Acc. Nr. AP0037227 Ref. Code: UR 0391

PRIMARY SOURCE: Gigiyena, Truda i Professional'nyye Zabolevaniya, 1970, Nr 2, pp 12 - 14

THE EFFECT OF VIBRATION ON THE ORGANISM OF BILLET AND ROLLED STOCK CHIPPERMEN

L. Ya. Tartakovskaya, N. V. Gorodnova

Summary

Chippermen who with the aid of air chippers remove defects on the surface of billets and rolled stock are, apart from vibration and noise, also exposed to the effect of an overheated microclimates. Specificity of their work makes it possible for the vibration to become transmitted from the handle not only to the hands, as it commonly happens in this kind of work, but also to the shin and knee joints. An examination of 130 chippermen showed the clinical picture of vibration disease in them to be characterized by the syndrome of vegetative polyneuritis of both upper and lower extremities, as well as by the angiodistonic syndrome with relatively seldom encountered manifestations of the angiospasm. Functional shifts occurring in chippermen depending upon the absence or presence of vibration disease were studied.

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19730151

Acc Nr: AP0037227 Ref. Code: UR 0391

PRIMARY SOURCE: Gigiyena, Truda i Professional'nyye Zabolevaniya, 1970, Nr 2, pp 12 - 14

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REEL/FRAME
19730151

1/2 035 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--HEAT TRANSFER IN BOILING LIQUIDS AT REDUCED PRESSURES AND AT FREE FLOW CONDITIONS -U-

AUTHOR-(03)-YAGOV, V.V., GORODOV, A.K., LABUNTSOV, D.A.

COUNTRY OF INFO--USSR

SOURCE--INZH.-FIZ. ZH. 1970, 18(4), 624-30

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HEAT TRANSFER, BOILING, WATER, ETHANOL, SODIUM CHLORIDE, NICKLE, METAL ROD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1140 STEP NO--UR/0170/70/018/004/0624/0630

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CIRC ACCESSION NO--AP0136560

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEAT TRANSFER IN FREE CONVECTION WAS STUDIED IN BOILING WATER, ETOH, AND NACL SOLNS. ON A FLAT SURFACE (TOP OF A 56 MM DIAM. NI ROD) AT REDUCED PRESSURES OF 0.036-1.0 BAR AND AT HEATING RATES (Q) EQUALS 10-200 KW-M PRIME2. THE MECHANISMS OF HEAT TRANSFER OPERATING AT THE DIFFERENT Q ARE DISCUSSED. IN THE TRANSIENT (FREE CONVECTION TO STABLE BOILING) REGIME, THE TEMP. DRIVING FORCE DELTA T REMAINED CONST. WITH INCREASING Q, I.E. THE CURVE OF Q VS. DELTA T WAS VERTICAL IN THIS REGION. THE DEPENDENCE OF Q EQUALS F(DELTA T) IN THE TRANSITION REGION IS EXPLAINED ON THE BASIS OF OSCILLATIONS IN THE HEATING SURFACE TEMP. FACILITY: ENERG. INST., MOSCOW, USSR.

USSR UDC 620.171.3.531.781.2.087-92.62-974

LESHCHENKO, V. M., DOZLOV, I. A., NOVIKOV, N. V., POTAPOVA, V. F., SENIN, A. M. and GORODYSKIY, N. I. Institute of Strength Problems, Ukrainian SSR Academy of Sciences (Kiev, Kaliningrad, Moskovskaya oblast)

"Investigation of the Work Capability of Series-Produced Tensoresistors Under Temperature Conditions to -269°C"

Kiev, Problemy Prochnosti, No 11, Nov 73, pp 101-105

Abstract: On the basis of experimental research, it is established that series-produced tensoresistors, with the use of constantan for the sensitive element and vinyflex lacquer as the base and adhesive, may be used for the measurement of deformations at static and dynamic loads under low-temperature conditions (to -269°C). An evaluation is made of the influence of low temperatures upon the coefficient of tensoresistor sensitivity, and consideration is given to the origination of apparent deformations and to the possibilities of taking them into account.

It was found that tensoresistors made in the manner described above are capable of functioning to a relative deformation of [illegible] dynamic loading at a temperature of -[illegible]°C and with a possible [illegible] relative deformation of [illegible]

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LESHCHENKO, V. M., et al., Problemy Prochnosti, No 11, Nov 73, pp 101-105

functioning for up to (2.4-3.1) x 10^6 cycles. The stressed and deformed state of tubular specimens from various materials was investigated during cooling of the specimens from 20 to -269°C.

For measuring deformations brought about by temperature gradients or due to inhomogeneity of the material of the components, tensoresistors with identical temperature characteristics should be used, and the tensoresistors should be selected and grouped on the basis of the apparent deformations in the given temperature interval.

7 figures. 6 references.